



CRANBERRY HEALTH NEWS

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Meet Cranberry Health Researcher Terri Anne Camesano, PhD, Associate Professor, Worcester Polytechnic Institute

As a lead researcher at the Biological Interaction Forces Laboratory at Worcester Polytechnic Institute, Dr. Terri Anne Camesano has been

researching the anti-adhesion properties of cranberry for five years. She and her colleagues have conducted several studies to assess if and how cranberry compounds inhibit bacterial adherence and growth, and ultimately help prevent infection. Her research covers three distinct areas: molecular models, biofilm assays, and human clinical trials.

Dr. Camesano's research has revealed new insights into the anti-adhesion forces that are at play at a molecular level when cranberry compounds come into contact with bacteria. Camesano has shown that exposure to cranberry juice causes the tiny fimbriae on *E. coli* to curl up, blunting their ability to attach to cells and cause infection.

At the recent American Chemical Society annual meeting, Camesano presented new data from a clinical trial that found cranberry juice provided antibacterial properties against *Staphylococcus aureus* (*S. aureus*), another harmful bacteria that causes many human infections.

Dr. Camesano has two Bachelor of Science degrees from the University of Rochester, a Master of Science degree in Environmental Engineering from the University of Arizona and a doctorate in Chemical Engineering from Pennsylvania State University.

Not only is Camesano an advocate of the berry's anti-adhesion benefits, she enjoys dried cranberries on her breakfast oatmeal and cranberry juice cocktail is always in her fridge.



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New Cranberry Health Research Results

The Cranberry Institute tracks and funds cranberry health research around the globe. It also partners with industry organizations such as the Wisconsin Cranberry Board and Canadian Cranberry Growers Coalition, to fund research on the health benefits of the cranberry.

Whole Cranberry Powder Provides Urinary Tract Health Benefits for Men

Cranberry polyphenols have been known to provide protection against urinary tract infections among women, but new research shows that the berry's benefits extend to men's urinary tract health as well. Benign prostatic hyperplasia (BPH), or enlarged prostate, will afflict nearly all men at some point in their life. By the age of 60, 50% of men will have some signs of BPH. By the age of 85, 90% of men will have signs of the condition. About one-third of cases require treatment, accounting for 1.7 million doctor visits annually in the United States. The first human clinical trial was recently published, evaluating [whether cranberry](#) improved lower urinary tract symptoms (LUTS) among men

with BPH.

The new study, reported in the *British Journal of Nutrition*, found that whole cranberry powder improved quality of life and increased markers of urinary tract health. Subjects included 42 men aged 45 to 70 who suffered from urinary tract and/or prostate health conditions. Half of the subjects took 1,500 mg of a cranberry fruit powder supplement daily and the other half took a placebo.

Results showed that people in the cranberry group experienced statistically significant improvements in all of the targeted markers, while there were no significant improvements in the control group. For example, PSA measures decreased among 80% of those on the cranberry supplement, and 70% experienced improvement in markers of improved urination, such as flow rate and residual volume.

Reference: Vidlar A, Vostalova J, Ulrichova J, et al. The effectiveness of dried cranberries (*Vaccinium macrocarpon*) in men with urinary tract symptoms. *Br J Nutr*. August 2010;31:1-9.

Cranberry PACs Provide 24-hour Anti-adhesion Properties

Research has revealed that consuming cranberry products can help to prevent the adhesion of certain *Escherichia coli* (*E. coli*) strains to the urinary tract walls, thereby helping to protect against urinary tract infections (UTIs). The power of the cranberry appears to be associated with the unique structure of its proanthocyanidin (PACs). The specific A-type linkage of the PACs in cranberries inhibits the adhesion of *E. coli* in a linear, dose-dependent manner. To further assess the dosage and length of time cranberries exert an impact, researchers recently conducted a multi-location randomized, double-blinded, placebo-controlled study with PAC-standardized cranberry powder.

Urine samples were collected from 32 volunteers from Japan, Hungary, Spain, and France, after they followed a cranberry powder regimen. The results showed that bacterial anti-adhesion was dose-dependent and prolonged for 24 hours with 72 mg of PACs from cranberry powder. In addition, the trial showed that cranberry acted to reduce the virulence of the *E. coli* bacteria. The researchers concluded that since bacterial adhesion is the initiating factor in UTI development, consuming cranberries may offer important benefits to protect against this common infection.

Reference: Howell A, Botto H, Combescure C, et al. Dosage effect on uropathogenic *Escherichia coli* anti-adhesion activity in urine following consumption of cranberry powder standardized for proanthocyanidin content: a multicentric randomized double blind study. *BMC Infectious Diseases*. 2010;10:94.

Cranberry Miscellany: Did you know...

Fresh cranberries can be frozen whole and will retain their freshness for nine months.

Cranberry Institute's Whole Berry Freezer Facts:

- A 12-ounce bag of fresh cranberries contains about three cups of berries.
- Fresh berries can go directly into the freezer in their original bags for up to four months; use a second freezer bag for longer-term storage of up to nine months.
- Cranberries will retain nutrients and stay fresh when frozen for nine months.
- Do not wash before freezing, but wash thoroughly before using in recipes.
- Pick out any leaves, stems, or bruised berries.
- Frozen berries can be used in any recipe calling for fresh berries.
- Use an equal amount of frozen berries as fresh in recipes.



Cooking with Cranberry

Holiday Cranberry-Orange Relish

Homemade fresh cranberry relish and sauces are an all-time holiday favorite. Cranberry relish is a perfect complement to roasted turkey or on leftover turkey sandwiches. Here's one of our favorites:

Ingredients:

1 12 oz. package of fresh or frozen, thawed cranberries*
1 unpeeled orange, cut into 8 pieces
¾ cup granulated sugar

*Wash uncooked cranberries thoroughly before using.

Directions:

Place cranberries and orange pieces in a food processor. Process until mixture is evenly chopped. Transfer to bowl or storage container and stir in sugar. Refrigerate until ready to use.

This recipe is courtesy of the Cranberry Marketing Committee. For more great recipes, visit www.USCranberries.com.

Health and Research Professionals:

The Cranberry Health Newsletter is designed to bring the latest research about cranberry and health to practitioners concerned about the health and well being of patients.

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